LK5061

Lockheed Environmental Systems & Technologies Co.
Lockheed Analytical Services
975 Kelly Johnson Drive Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 800-582-7605 Facsimile 702-361-8146

0043979

LOCKHEED MARTIN

August 25, 1995

Ms. Joan Kessner
Bechtel Hanford, Inc.
345 Hills
P.O. Box 969
Richland, WA 99352

RE:	Log-in No.:	L5061
	Quotation No.:	Q400000-B
	SAF:	B95-053
	Document File No.:	0808596
	BHI Document File No.:	255
	SDG No.:	LK5061

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 8 August 1995. The temperature of the cooler upon receipt was 2°C.

Sample containers received agree with the chain-of-custody documentation. Sample containers were received intact. Samples were not received in time to meet the analytical holding time requirements. All discrepancies identified upon receipt of the samples have been forwarded to the client and are documented in the enclosed chain-of-custody records. (See attached Sample Receiving Checklist).

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data please call Kathleen Hall at (509) 943-4423.

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Lockheed Analytical Services

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Release of this data report has been authorized by the Laboratory Director or the Director's designee as evidenced by the following signature.

" I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manger or a designee, as verified by the following signature."

Sincerely,

Karen Hermann for

Kathleen M. Hall
Client Services Representative

cc: Client Services
Document Control

CASE NARRATIVE
INORGANIC NON METALS ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

- One water sample was received for LK5061 and analyzed in batch 808 bh for selected analytes as requested on the chain of custody. Quality control analysis was performed on the following sample:

Client ID	LAL #		Method
BOG941	L5061-3	MS, DUP	7196 Hexavalent Chromium

Holding Time Requirements

- The sample was received outside of holding time and the associated sample is flagged with an "H".

Method Blanks

- The concentration levels of all the requested analytes in the method blank were below the reporting detection limits.

Internal Quality Control

- All Internal Quality Control were within acceptance limits.

Kay McCann
Prepared By

August 16, 1995
Date

CASE NARRATIVE
INORGANIC METALS ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: instrument tune (ICP/MS only), initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), ICP interference check samples (ICP only), serial dilutions, analytical (post-digestion) spike samples, matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

All samples were received on August 8, 1995. The samples were logged in as L5061 and were prepared and analyzed in batch 808 bh.

Holding Time Requirements

- All samples were analyzed within the method-specific holding times.

Method Blanks

- The concentration levels of all the requested analytes in the method blank were below the reporting detection limits.

Internal Quality Control

- All Internal Quality Control were within acceptance limits.

Shellee McGrath
Prepared By

August 25, 1995
Date

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 08 1995, 02:46 pm

Login Number: L5061
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L5061-1	B0G941	04-AUG-95	08-AUG-95		12-SEP-95
TEMP 2					
Location: 157					
Water 1 S	SCREENING	Hold:31-JAN-96			
L5061-2	B0G941	04-AUG-95	08-AUG-95		12-SEP-95
TEMP 2					
Location: 157					
Water 1 S	218.2 CHROMIUM	Hold:31-JAN-96			
L5061-3	B0G941	04-AUG-95	08-AUG-95		12-SEP-95
TEMP 2					
Location: 157					
Water 1 S	7196 CHROMIUM (VI)	Hold:05-AUG-95			
L5061-4	REPORT TYPE	08-AUG-95	08-AUG-95		12-SEP-95
TEMP 2					
Location:					
Water 1 S	EDD - DISK DEL.				
Water 1 S	INORG TYPE 2 RPT				

Signature: Paul C Davis

Date: 8-08-95

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L5061

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: ☐ Priority ☒ Normal

Collector: Doug Bowers	Company Contact: Dave Blumenkranz	Telephone No.: 372-9658
Project Designation: 100 HR-3 Treatability Study	Sampling Location: 100 D	SAF No.: B95-053
Ice Chest No.: ER-5	Field Logbook No.:	Method of Shipment: Air Freight
Shipped To: Lockheed	Offsite Property No.: W95-0-0204-43	Bill of Lading/Air Bill No.: 290 4636 8847
Possible Sample Hazards/Remarks: unknown		
Special Handling and/or Storage: cool to 4 C		

SAMPLE ANALYSIS	Preservative	HNO3	none	none	none
	Type of Container	G/P	G/P	P/G	P/G
	No. of Container(s)	1	1	1	1
	Volume	500 mL	500 mL	20 mL	20 mL
		Chrom-ium - Total	Chrom-ium VI	Activ-ity Scan	Rad Screen

HC 8/4/95

Sample No.	Matrix*	Date Sampled	Time Sampled				
B0G941	W	8/4/95	1140	X	X	X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
[signature]	8/4/95 1350	K. J. Mapp/K. Trapp	8/4/95 1350
Relinquished By ERC	Date/Time 0800	Received By	Date/Time
B Whitten	8-7-95		
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Analysis vor Chromium (VI) by SW -846 7196 is being requested for Information only. The ERC Contractor acknowledges the 24-hour holding time will not be met.

Matrix*

S	=	Soil
SE	=	Sediment
SO	=	Solid
SL	=	Sludge
W	=	Water
O	=	Oil
A	=	Air
DS	=	Drum Solids
DL	=	Drum Liquids
T	=	Tissue
WI	=	Wipe
L	=	Liquid
V	=	Vegetation
X	=	Other

LABORATORY SECTION	Received By	Title	Date/Time
	A L Miller	Sample Custodian	8-9-95 1045

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required:
CCN: N/A
CTI: 100HR-3
TSD: N/A
ERA: N/A
Subject Code: 5400

TO: Dave Blumenkranz H4-90 DATE: April 26, 1995

COPIES: Doug Bowers - N3-05 FROM: Mike Wesselman
Radiological Controls
N3-06/376-2084

Post-it® Fax Note 7671	Date 5/1	# of pages ▶ 1
To D. Bowers	From D. Blumenkranz	
Co./Dept. ITH/Samp.	Co. CHI/ERS	
Phone # 376-1007	Phone # 372-9658	
Fax # 376-5991	Fax #	

SUBJECT: **EXEMPTION OF SAMPLES FROM 100-HR-3 PUMP AND TREAT FROM TOTAL ACTIVITY ANALYSIS.**

After reviewing sampling data recorded on GeoDat as well as data from the latest resin change at the unit, it has been concluded that there is no need to perform total activity analysis of water sample from 100-HR-3 prior to offsite shipment. Water from all wells in the area is well below levels which would deliver 100 millirem per year CEDE to any one drinking two liters a day, no water exceeds the 2000 picocurie per gram limit for shipment as non radioactive by Department of Transportation. Activity trends in all wells have been downward for the last twenty years. Sample from the pump and treat system itself indicate less than six picocuries per gram of tritium and less than ten picocuries per liter of both alpha and beta contamination. All discharges of radioactive material to the ground in the 100-D Area have ceased, the actions of the pump and treat system do not appear to be mobilizing previously deposited materials. Based on the above information and the results of total activities performed to date, there is sufficient process knowledge to conclude that preshipment screening of water samples is no longer required.

Mike Wesselman

maw

Distribution

SAMPLE CHECK-IN LIST

Date/Time Received: 8-8-95 SDG#: N/A

Work Order Number: N/A SAF #: B95-053

Shipping Container ID: ER-5 Chain of Custody # N/A

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Sample temperature 2°C
4. Vermiculite/packing materials is Wet [ ] Dry [X]
5. Each sample is in a plastic bag? Yes [X] No [ ]
6. Sample holding times exceeded? Yes [X] No [ ]

7. Samples have:
   - ____ tape
   - __x__ custody seals
   - ____ hazard labels
   - ____ appropriate sample labels

8. Samples are:
   - __x__ in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles

9. Is the information on the COC and Sample bottles in agreement?

Yes[X] No [ ]

Notes: Samples received passed Holding Times.

Sample Custodian/Laboratory: Paula Davis/Lockheed Date: 8-08-95

~~Telephoned~~ Faxed To: Kathleen H. On 8-08-95 By Paula Davis
PCO 8-08-95

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LOCKHEED MARTIN

Sample Login
Login Review Checklist

Lot Number 45061

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For effective login review, at a minimum, five reports form the login process are required. These are the COC (or equivalent), the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT	YES	NO	N/A	Comment
1. Are all sample ID's correct?	X			
2. Are all samples present?	X			
3. Are all matrices indicated correctly?	X			
4. Are all analyses on the COC logged in for the appropriate samples?	X			
5. Are all analyses logged in for the correct container?	X			
6. Are samples logged in according to LAS batching procedures?	X			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	X			
2. Have all appropriate comments been indicated in the comment section?			X	

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?			X	

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Paula A Davis — primary review signature — 8-08-95 — date

secondary review signature — 8.8.95 — date

C.80859

Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Westinghouse-Hanford Job No. L5061 Cooler ID: n/a

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 2°C

temperature of temp. blank upon receipt:

	Yes	No	* Comments/Discrepancies
custody seals intact	x		
chain of custody present	x		
blue ice (or equiv.) present/frozen	x		
rad survey completed	x		

SAMPLE CONDITION UPON RECEIPT

	Yes	No	* Comments/Discrepancies
all bottles labeled	x		
samples intact	x		
proper container used for sample type	x		
sample volume sufficient for analysis	x		
proper pres. indicated on the COC	x		
VOA's contain headspace		n/a	
are samples bi-phasic (if so, indicate sample ID'S):		n/a	

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times	x		Chromium VI, Sample was received out of Holding Times. Client request analysis even though the Sample was passed Holding Times.
samples to subcontract			

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: Paula Davis 5-08-95

Sent to the client (date/initials): ** Client's signature upon receipt:

*Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt*

*** = please review this information and return via facsimile to the appropriate CSR (702) 361-8146*

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Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
Bechtel Hanford, Inc. * Richland, WA

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
B0G941	L5061-1		Water	SCREENING
	L5061-2		Water	218.2 CHROMIUM
	L5061-3		Water	7196 CHROMIUM (V
REPORT TYPE	L5061-4		Water	EDD - DISK DEL.
	L5061-4		Water	INORG TYPE 2 RPT

0808590

Lockheed Analytical Services
DATA QUALIFIERS FOR INORGANIC ANALYSES
[Revised 08/28/92]

For Use on the Analytical Data Reporting Forms	
B	*For CLP Analyses Only* -- Reported value is less than the contract required detection limit (CRDL) but greater than or equal to the instrument detection limit (IDL).
C	*For Routine, Non-CLP Analyses Only* -- Any constituent that was also detected in the associated blank whose concentration was greater than the reporting detection limit (RDL).
D	Presence of high levels of interfering constituents required dilution of sample which increased the RDL by the dilution factor.
E	Estimated value due to presence of interference.
H	Sample analysis performed outside of method-or client-specified maximum holding time requirement.
M	*For CLP Analyses Only* -- Duplicate injection precision criterion was not met.
N	Matrix spike recovery exceeded acceptance limits.
S	Reported value was determined from the method of standard addition.
U	*For CLP Reporting Only* -- Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
W	*For AAS Only* -- Post-digestion spike for Furnace AAS did not meet acceptance criteria and sample absorbance is less than 50% of spike absorbance.
X, Y, or Z	Analyst-defined qualifier.
*	Relative percent difference (RPD) for duplicate analysis exceeded acceptance limits.
+	Correlation coefficient (r) for the MSA is less than 0.995.
For Use on the QC Data Reporting Forms	
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

[1] Used as footnote designations on the QC summary form.

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0G941	Date Collected: 04-AUG-95
Matrix: Water	Date Received: 08-AUG-95
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Chromium, hexavalent	mg/L	7196	0.52	0.10	HD(1:5)	15-AUG-95	26089	L5061-3

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0G941	Date Collected: 04-AUG-95
Matrix: Water	Date Received: 08-AUG-95
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Chromium, Total	mg/L	218.2	0.45	0.20	D(1:20)	14-AUG-95	26115	L5061-2